In response to any opening for a,

Marine Biologist / Biochemist

Nicholas M. Hopkins

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EDUCATION

State University of New York at Stony Brook
BS ***Biochemistry / Marine Biology*** minor - May 1999

Southern Maine Technical College - South Portland, Maine with 3.087 GPA
Emergency Medical Technician certified - December 1995
A.A.S. ***Environmental Technology*** -Dec. 1994
OSHA certified from 1993- 1996
Fishing Vessel Drill Conductor certified- August 1994
A.A.S. ***Marine Biology and Oceanography*** - May 1993

EXPERIENCE

NMFS, Mississippi Laboratories Harvesting Division
Fisheries Method and Equipment Specialist II
March 2001-Present

My objectives are: to construct and maintain fishing and sampling gear; maintain the working order of the dock and gear warehouse; I am familiar with all common aspects of fishing gear handling, operation, function, repair and maintenance. Some commercial gear of interest are trawls, pots, and longlines. I am familiar with the deployment retrieval and maintenance of Camera mounts. I am involved in BRD and TED development and testing. I assist in TED/BRD enforcement activities and training workshops. When required I will assist in the operation and maintenance of the R/V *Caretta.* On board I perform all the duties of a deck hand and when necessary collect marine mammal biopsy sample in accordance to a marine mammal cruise. In a Panama City Beach experiment I was responsible for the construction, deployment and maintenance of longline gear. This was part of an effort to observe the action of longline gear on tape with certain modifications done to it. In Panama City Beach I assisted in a number of turtle experiments, handling the turtles and setting up the experiment pens. I have attended Marine Mammal Take Reduction Meetings in North Carolina

representing the Pascagoula Lab Harvesting Division in order to bring back and ideas that could be tested at our facility.

NMFS, Southeast Region, Florida Shark Drift Net Fishery
Observer
January 2001-March 2001

My objectives were: to record the number of every species on shark caught in the fishing gear as well as the by catch.; pay close attention to any interaction with the fishing gear and any protected species, turtles and marine mammals in particular; record all data collected in a standardized data sheets under the direction of Dr. John Carlson stationed at the NMFS lab in Panama City Beach Fla.. The first few trips were out of Fort Pierce Fla. but the majority of the trips were out of Stock Island , Fla.. Trips lasted 1 - 3 days setting the gear at night and hauling in the morning.

NMFS, Southwest Region, Hawaii longline fishery
Observer
October 2000,- January 2001

My objectives were: to obtain reliable information about the incidental interaction of sea turtles; to record fishing effort; to document interactions of other protected species; to tally by species fish kept and discarded; and to process selected species for life history information. My duties were to work at sea and ashore, work under the supervision of the PIAO Administrator and operations Coordinator, collect research and management data from the Hawaii longline fisheries, collect data on vessel activity and fishing operations, identify protected species, target, and bycatch species by number and location, tally sea turtles observed during fishing activity, dissect post-mortem marine species as instructed, record sea turtle life history data, as well as other selected marine species, review collected data ashore and enter it into a computer data base. I was assigned to vessels 50 to 75 feet in length with foreign Captains and crews speaking limited English serving only ethnic food. The trips lasted on average 27 days and I worked as the only government employee alongside the commercial fishing crew whose work may conflict with my duties. With my commercial fishing experience I am capable of operating a commercial fishing vessel in the case of an emergency as far as driving the boat and making a distress call over the single side band radio. I am trained as an EMT basic in case of an accident especially trauma at sea. I am a certified fishing vessel safety drill conductor so I know how to respond to a hazardous situation at sea as well as how to direct the crew in response to an emergency at sea. I can identify all the commercial longline fishery target species of the NMFS Southwest Region as well as all the commercial fishing target species of the NMFS Northeast Region. I have been

trained in identifying the most common marine mammals and sea birds found in these regions. I know how to identify all the sea turtles in these regions as well as process them on a Sea Turtle Life History form, tag them and record the vital statistics involved in identifying them. I know how to collect turtle biopsy samples on board and boat side.

SUNY Stony Brook's Marine Science Research Center
Lab Technician
September 1998- May 1999

Duties included repeated runs of PCR on offshore deep water filtered microbial samples, isolating denatured primers for purification, and running the samples through a *Denaturing Gradient Gel Electrophoresis* (DGGE)(as performed in *Applied and Environmental Microbiology, Feb. 1996, p. 340-346)* to determine population diversities. I was in charge of making the modifications as well as preparation and maintenance of the DGGE apparatus. I worked within a fixed budget to achieve the best consistent results. I worked in the lab part time while I was taking classes for around 6 hours per week. I was directed by Professor Chistoserdov and worked along side two graduate students.

D.E.P. of New Jersey
Research Associate
August 1997

R/V *Caitlin*, 84 ft. Stern trawler. Assisted in scientific gear preparation and catch processing also served as liaison to the Captain and scientific crew. Duties included recording the identification tally and weight of the catch, weather conditions, and bottom conditions.

NOAA, Woods Hole
Research Associate
Summer 1995

R/V *Katahdin*, 107 ft. Stern trawler. Predator/Prey Survey out of Woods Hole Mass. investigated the distribution of and predation on the age 0 cod and haddock. The following scientific fishing gear was used: a Yankee 36 bottom trawl with 41 cm diameter rollers and 450 kg polyvalent doors, a Shuman midwater trawl with 4 meter Morgere 'W' vertical doors, Scanmar transducer, VD-282 acoustical towed body, a Simrad EK5OO acoustical monitor, and a Seacat CTD. The sampling procedure included the culling to species, lengths and weights, the identification of sex and maturity, and the removal of stomachs. Any suspected well digested cod or haddock found in the stomachs were cryogenically preserved for DNA testing back in the NOAA Woods Hole Laboratory. Collected, keyed out, and preserved specimens for SMTC.

Deckhand - Oct. 1984- *Caitlin,* maiden voyage from Panama City Fla. to Portland Me.
May 1988- *Katahdin,* maiden voyage from Tarpon Springs Fla. to Portland Me.
Dec. 1988- *Katahdin,* after repairs made at Panama City return to Portland Me.
July 1995- *Katahdin,* **MARMAP** cruise for **NOAA** encompassing the entire Gulf of Maine down to Cape Hatteras North Carolina.

Commercial Fisherman - (self employed) paid a full share (non consecutive trips)

1996- present	Owner/ operator of small lobster boat
1988- 1996	F/V *Katahdin,* 107 ft. stern trawler/crew member
1995- 2000	F/V *Terri & Ruth,* 45 ft stern trawler small mesh whiting and shrimp fishing/crew member
1994	F/V *Teresa Marie III,* 85 ft stern trawler/crew member
1993	F/V *Tori T* 75 ft stern trawler/crew member
1989	F/V *Meagan,* 25 ft tuna boat/Captain
1984-1988	F/V *Caitlin,* 84 ft. stern trawler/crew member

RELEVANT QUALIFICATIONS AND SKILLS

- PCR
- Agarose, acrylimide, and Denaturing Gradient Gel Electrophoresis
- Familiar with commercial fishing gear construction and maintenance.
  Knowledge of CTD host computer and submerged unit
- Q-Fax (NOAA Satellites receiver)
- Maintenance and launching of towed body housing EK500 multi beam sounding device
  on-site sampling techniques i.e. *Secchi Disk, Ekman Current Meter, Nisken Water Sampler, Nansen Bottle, Bottom Grab, Core Sampler,* ect.
- Commercial equipment such as *scanner, sounding machines (paper and digital, color) radars, plots (paper and digital) lorans etc.*
- Experience with MS-Works and common PC functions.
  Certified Emergency Medical Technician
- Holding a valid fishing vessel operators permit
- Scuba Certified P.A.D.I
- Commercial Fishing Vessel Drill Conductor
- Assistant Engineer on commercial fishing vessels (small parts fabrication *tap and die, minor welding, cutting torch, engine maintenance for extended days at sea.)*
- More than 3,000 hours of sea time
- Lab experience in Chemistry, Biology, Microbiology, Analytical Chemistry, Biochemistrv

I have just completed a degree in Biochemistry but prior to this my background has been primarily in commercial fishing. The experience has made it easy for me to do other jobs well effortlessly since anything can seem easier in comparison. As a deck hand on R/V *Katahdin* that was chartered by NOAA out of Woodshole, MA. I was asked to assist the scientific crew in cryogenically preserving the stomach contents of possible predators of year 0 cod and haddock. The stomach contents of whiting, Atlantic Herring, Alewives, skates, etc. were scraped and put into 1 ml. tubes then submerged in liquid nitrogen. At the end of the trip the samples were later taken to a lab in Woodshole where DNA scans could be done to find out what animal or plant had been digested. The freezing process was fairly simple as long as the proper protection was worn and spills were prevented. On a MARMAP cruise out of Woodshole I worked aboard a vessel that encompassed the entire Gulf of Maine down to Cape Hatteras collecting samples with bongo nets at various depts. The samples were preserved in 10% formyline and sea water and store in jars.

I graduated from SUNY at Stony Brook with a biochemistry degree and a marine biology minor. The last semester was spent emphasizing *Cell Biology* and *Environmental Microbiology* in particular marine bacteria and marine viruses were introduced into some of the labs and lectures. I have been working in the Marine Sciences Lab at Stony Brook with an acrylimide gel using electrophoresis to separate mixed marine microbial populations into species specific bands. The process called DGGE was new and I was assigned to perform, modify and adapt the procedure to best suit this particular lab for the past year. 16S rDNA of isolated but possibly mixed microbial DNA taken from water samples at various depths of Long Island Sound was amplified with modified primers that had a G/C clamp. The modified primer made it possible to separate the different specimens by their rate of denaturing in an acrylimide gel with a concentration gradient of urea and formamide.

At SMTC in 1991 I was first introduced to microbiology, marine botany, zoology and ichthyology. Aboard fishing boats every new specimen I came in contact with was taken home, preserved, identified and some even given to my old schools for other students to appreciate. With commercial fishing experience as well as being trained in a variety of collection methods from nets to dredges to plankton tows, I am well trained at collecting marine specimens.

After a few years at sea, I went back to school fueled by the potential that marine life has in medicine. Biochemistry specifically concentrates on the biological blueprint to each naturally occurring cure. I was trained how to separate the cell of interest, it's products, and even its DNA to see how the product was made. Cellular extraction, cellular functions, inducers, promoters and inhibitors were commonly discussed in class. I have worked in labs performing cellular extractions, DNA purification and filtering, as well as gel extraction for specific weight bands taken from acrylamide gel electrophoresis.

Out side of class I worked in a lab that worked with marine microbiology. The professor in charge also taught the Environmental microbiology class I was taking so he made sure I was well disciplined in classical microbiology as well the DGGE project I was working on independently.